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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/752,502	01/08/2004	Gou Tsau Liang	LEE.003	5635

20987 7590 09/19/2005

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EXAMINER	
BREWSTER, WILLIAM M	
ART UNIT	**PAPER NUMBER**
2823	

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/752,502	LIANG, GOU TSAU	
	Examiner	Art Unit	
	William M. Brewster	2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Chen, US Patent No. 6,838,214 B1.

The AAPA teaches a manufacturing method for liquid crystal display panels having a high aperture ratio, comprising the steps of: in the BACKGROUND OF THE INVENTION, application, p. 1, line 4 - p. 3, line 19;

in fig. 1, providing a transparent substrate 11 with thin film transistors 121 forming therein, and the periphery of the transparent substrate having an outer lead 122 bonding area 123 formed by covering an insulation layer 13 over metal wires;

forming a protection layer 18 over the thin film transistors of the transparent substrate and outer lead bonding area;

applying a photo-etching process, p. 1, line 17 - p. 2, line 1, to the protection layer so as to remove a part of the protection layer at the outer lead bonding area for exposing the insulation layer 124 on which outer lead bonding pads are predefined located 123; and

etching the remaining protection layer and the exposed insulation

layer, p. 1, line 17 - p. 2, line 1 for exposing upper portions of the insulation layer and generating via holes 124, 125 through the insulation layer so as to expose the metal wires, p. 1, line 5 - p. 3, line 19;

limitations from claim 2, the manufacturing method for liquid crystal display panels having a high aperture ratio of claim 1, wherein the protection layer above the thin film transistor has at least one via hole 124 formed by the etching process, p. 1, line 17 - p. 2, line 1;

limitations from claim 3, the manufacturing method for liquid crystal display panels having a high aperture ratio of claim 2, further comprising the step of: forming a transparent conductive layer 19 on the protection layer and inside the via holes so as to electrically contact the thin film transistors, p. 2, line 2-14;

limitations from claim 4, the manufacturing method for liquid crystal display panels having a high aperture ratio of claim 1, wherein the thin film transistor is a transistor having an etching structure 125;

limitations from claim 5, the manufacturing method for liquid crystal display panels having a high aperture ratio of claim 1, wherein the thin film transistor is a transistor having a back-channel etching structure, wherein the conductive electrode 19 contacts source/drain 17, through insulator 131;

limitations from claim 6, the manufacturing method for liquid crystal display panels having a high aperture ratio of claim 1, wherein the exposed portions of the metal wires 122 are the outer lead bonding pads 123;

limitations from claim 7, the manufacturing method for liquid crystal display panels having a high aperture ratio of claim 1, wherein the protection layer 18 is made from a transparent organic material, p. 2, line 22 - p. 3, line 1;
limitations from claim 8, the manufacturing method for liquid crystal display panels having a high aperture ratio of claim 7, wherein the organic material is acrylate, p. 2, line 22 - p. 3, line 1;
limitations from claim 9, the manufacturing method for liquid crystal display panels having a high aperture ratio of claim 1, further comprising the step of: sealing the liquid crystal display panel by pasting a sealant on the exposed portions of the insulation layer, p. 1, lines 10-16;
limitations from claim 10, the manufacturing method for liquid crystal display panels having a high aperture ratio of claim 1, further comprising the step of: interposing a silicon nitride 131 layer between the insulation layer and the protection layer, p. 1, line 17, p. 2, line 1.

The AAPA does not specify using a half-tone mask, but Chen does. Chen teaches in figs. 12-19 using a half-tone mask, col. 4, lines 34-52, and limitations from claim 11, the manufacturing method for liquid crystal display panels having a high aperture ratio of claim 1, in fig. 17, wherein the protection layer 26 is a photoresist layer, col. 7, line 61 - col. 8, line 6. Chen gives motivation in col. 5, lines 11 - 29. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to recognize that combining Chen's process with AAPA's invention

would have been beneficial because it helps form more complex and precisely controlled features than conventional masks.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William M. Brewster whose telephone number is 571-272-1854. The examiner can normally be reached on Full Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

William M. Brewster

14 September 2005
WB